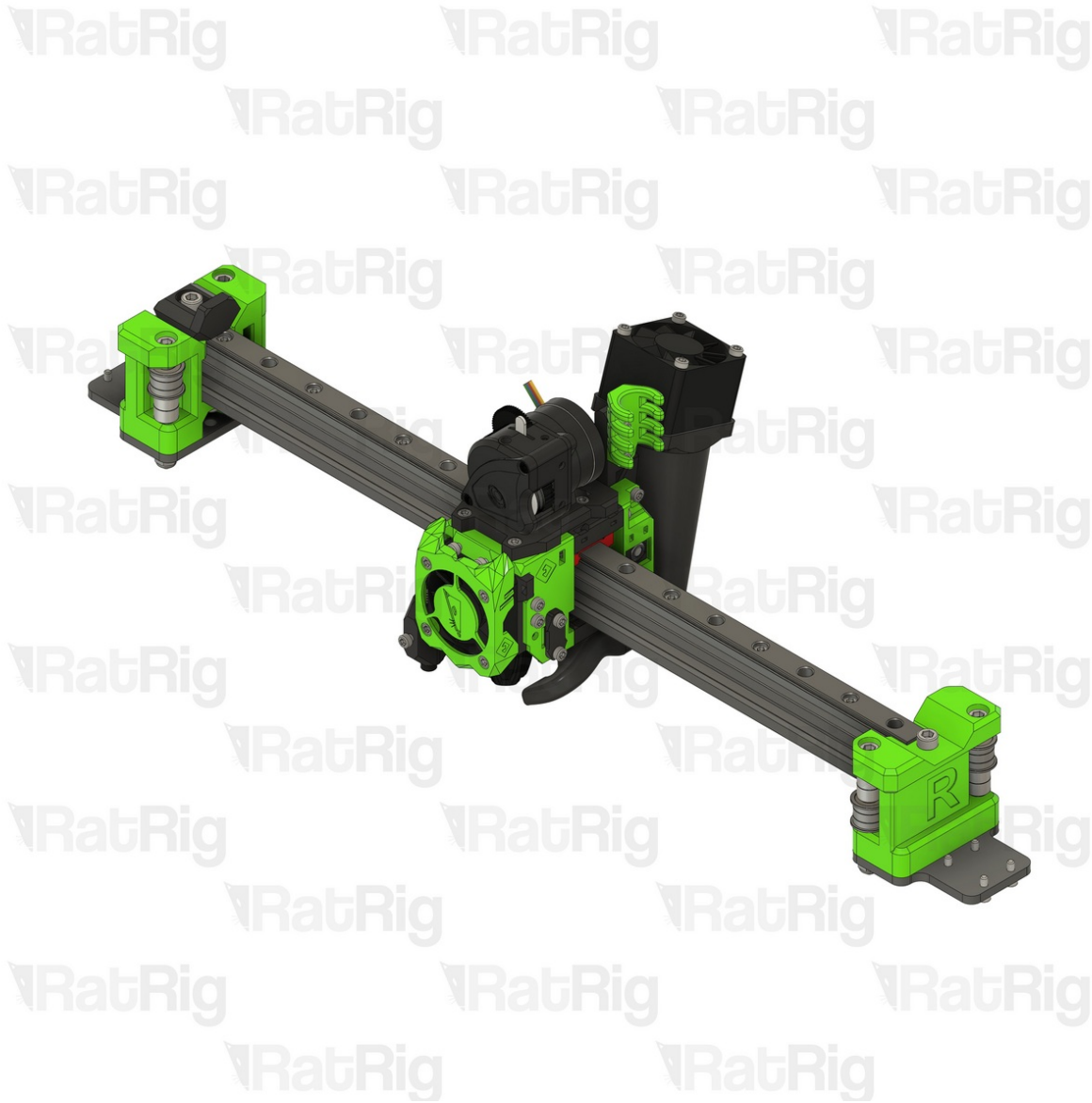
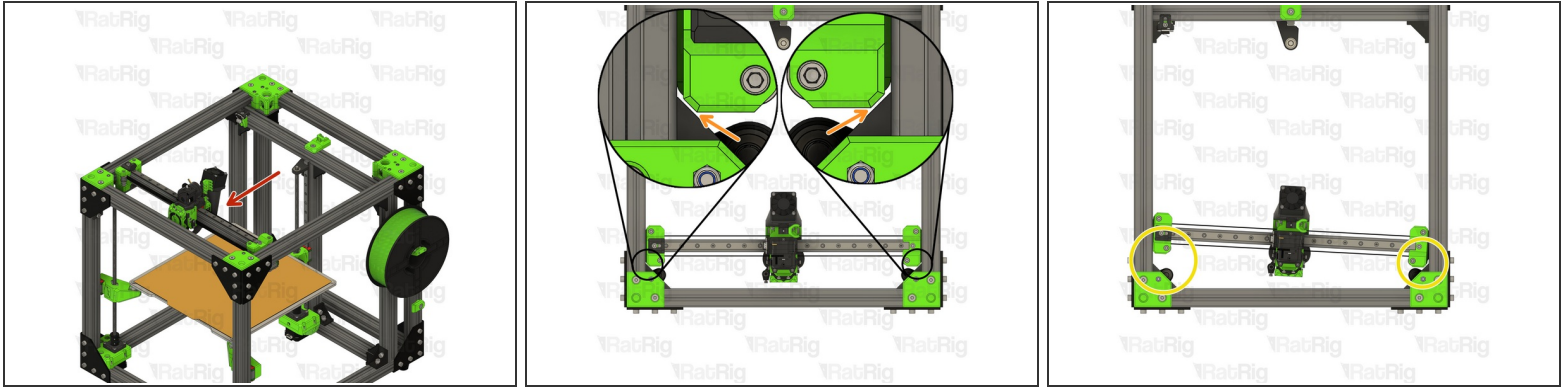


Rat Rig

11. X-Axis Gantry Alignment

Written By: Miguel Cruz



Step 1 — Check if the X-axis gantry is square

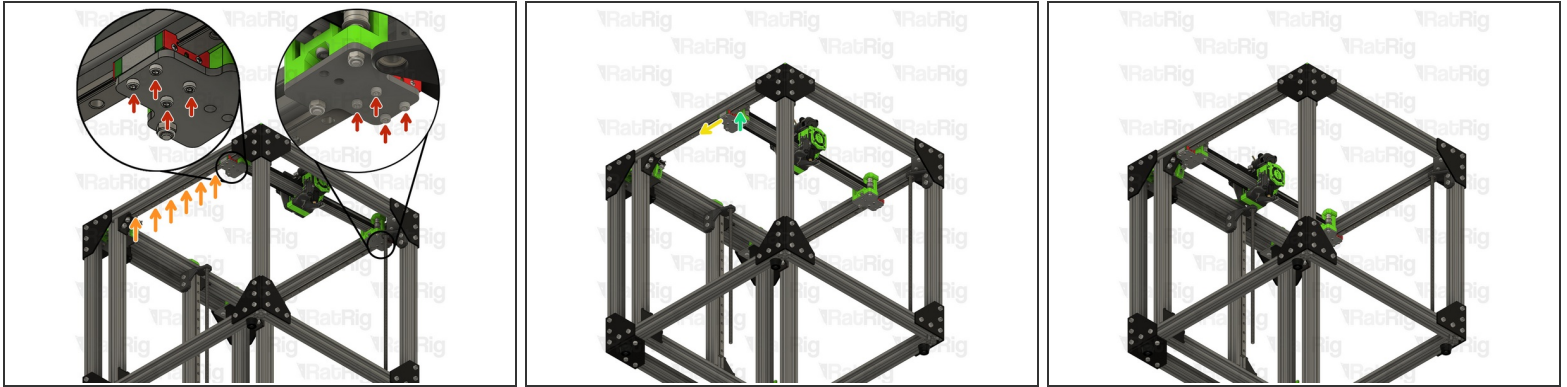
- Push the X-axis gantry forward
- The space between the XY Joiners and the front plates should be the same.
 - ① If the space is equal on both sides, you may skip to the next chapter.
- If the space isn't equal and the gantry doesn't sit flush with the front, please follow the next steps.
- ☑ The bed plate is hidden in this chapter for ease of understanding, there is no need to remove it.

Step 2 — Align the X-axis gantry



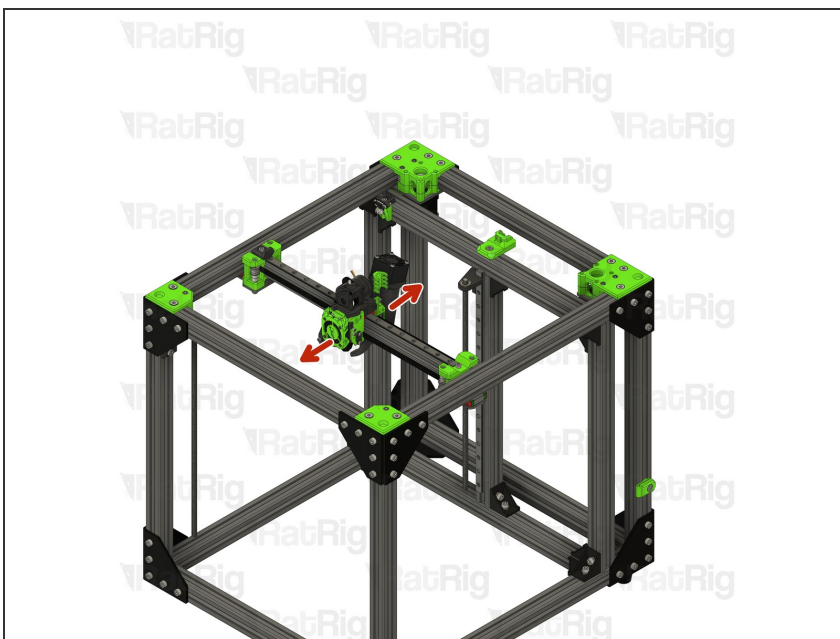
- Loosen the Y-rail carriage screws slightly
- Adjust the belt tensioning screws in order to equalize the gap on both sides
 - If you loosen the belt tensioning screw, the gantry will move forward, closing the gap
 - If you tighten the belt tensioning screw, the gantry will move back, enlarging the gap
- Adjust both belt tensioning screws until the gap is equal on both sides and the gantry sits flush on the front plates
- ❗ Squeeze the XY-Joiner against the front plate to feel if there is any play. While squeezing there shouldn't be any play, keep adjusting the belt tensioning screws until there is no gap on either side.

Step 3 — Align the Y-axis linear rails



- Tighten the carriage screws
- Loosen the screws on **one** of the Y-axis linear rails slightly
- ☑ Align the Y-axis linear rails from the front to the back:
 - Little by little move the gantry backwards
 - Tighten the screw on the rail closest to the carriage as you move it
- ① Repeat for all screws along the rail

Step 4 — Test the Y-axis movement



- Test the movement of the Y-axis over the full travel distance
- ⚠ Small changes in resistance are normal, but becoming much harder to push, or binding completely are not
- ① If the gantry is hard to push, or it binds completely, repeat **Step 3** for the other Y-rail

Step 5 — Next guide



- If you are building a regular V-Core 3.1, continue here: [11. Accessories](#)
- If you are building an Enclosed V-Core 3.1, continue here: [11. Enclosure Panels](#)